

# MUSCLE CONTRACTION

First, we need to understand that muscles are the only structure that have contractive elements; Except the round ligament that hold the uterus to the sacrum. At the end of the pregnancy this ligament might cramps.

Ligaments are able to be “stretched” but only to a limit. If you pass this limit of around 4%, they will not come back to their previous shape.

You do not want to feel a stretch in the ligaments or at the extremities of a muscle, only in the belly of the muscle. Elasticity really apply to muscle tissues.

There are 2 types  
of contractions:

**Isometric contractions**

=

the length stays the same  
= the muscle contracts but  
there is no movement.

**Isotonic contractions**

=

the tension stays the same

There are 2 types  
of Isotonic contractions:

**Isotonic Concentric**

=

when the overall length of  
a muscle decreases during  
a contraction

= a shortening contraction  
such as the biceps shorten-  
ing to bring a glass of wa-  
ter to your mouth

**Isotonic Eccentric**

=

when the overall length of  
a muscle increases during  
a contraction

= a lengthening contrac-  
tion such as in uttanasana.

When we fold forward the hamstrings are actually lengthening while contracting as we move slowly with gravity.

